

CLAIMS

1. A coolant, comprising:

a water-containing base material; and

5 a rust-preventive additive that functions to keep an electric conductivity of said coolant at a low level and to maintain a hydrogen ion exponent of said coolant in a substantially neutral level.

2. A coolant in accordance with claim 1, wherein the base material

10 is a solution mixture containing a glycol.

3. A coolant in accordance with either one of claims 1 and 2,

wherein the rust-preventive additive includes at least one of an alkalinescent additive and an acidulous additive.

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4. A coolant in accordance with either one of claims 1 and 2,

wherein the rust-preventive additive includes an alkaline additive and an acidic additive.

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5. A coolant in accordance with claim 4, wherein the alkaline

additive is an ethanolamine series.

6. A coolant in accordance with claim 5, wherein the ethanolamine

series includes triethanolamine, diethanolamine, and monoethanolamine.

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7. A coolant in accordance with any one of claims 4 to 6, wherein

the acidic additive is selected out of the group consisting of triazole compounds, phosphoric acid compounds, and organophosphoric acid compounds.

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8. A coolant in accordance with any one of claims 1 to 7, wherein the rust-preventive additive causes said coolant to have a hydrogen ion exponent of about 6 to 9.

5 9. A coolant in accordance with any one of claims 1 to 8, wherein the rust-preventive additive causes said coolant to have a low electric conductivity of less than about 100 $\mu\text{S}/\text{cm}$.

10 10. A coolant in accordance with any one of claims 1 to 9, wherein the rust-preventive additive especially has rust-preventive performance against aluminum material.

11. A coolant in accordance with claim 1, wherein the rust-preventive additive is a nonionic series substance.

15 12. A coolant in accordance with claim 11, wherein the nonionic series substance includes at least one of a saccharide and a nonionic surfactant.

20 13. A coolant in accordance with either one of claims 11 and 12, said coolant is decontaminated by a coolant decontamination system using either one of an ion exchange resin and a chelating resin.

25 14. A coolant in accordance with any one of claims 1 to 13, said coolant has undergone deoxidization.

15. A method of enclosing a coolant in accordance with any one of claims 1 to 13 in a cooling circuit for a stack of fuel cells, said method comprising the steps of:

30 deoxidizing said coolant; and

enclosing said deoxidized coolant with an inert gas in said cooling circuit.

16. A cooling system for a stack of fuel cells, said cooling system comprising:

a coolant in accordance with any one of claims 1 to 13; and
a cooling circuit in which said coolant and an inert gas are enclosed.

17. A method of decontaminating a coolant, said method comprising the steps of:

preparing a water-containing base material;

preparing a rust-preventive additive that functions to keep an electric conductivity of said coolant at a low level and to maintain a

hydrogen ion exponent of said coolant in a substantially neutral level; and
removing deteriorating substances from a solution mixture of the base material and the rust-preventive additive with either one of an ion exchange resin and a chelating resin.